SONET/SDH Linear Automatic Protection Switching Software

Key Features

- Fully integrated with SONET/SDH TMS module
- Full implementation of linear APS state machine
- Manages transmission and reception of K1/K2 bytes
- 1+1, 1:1, and 1:N models supported
- Unidirectional and Bidirectional modes of operation
- Revertive and non-revertive operation
- Designed to operate in multiprocessor environments
- Built-in Wait-To-Restore feature
- SONET/SDH framer device independent
- Built-in Wait-To-Restore feature
- Built-in Exercise feature
- Full compliant with SONET and SDH standards
- Assistance for implementing equipment protection
- Easy to integrate with existing SONET/SDH interfaces

Standards Compliance

o Telcordia GR-253
o ANSI T1.105
o ITU G.841

Key Benefits

- Fully Standards Compliant
- Turnkey solution
- OS independent
- Pre-ported to Linux
- Easy to use APIs
- Sample application included
- ANSI C Source Code
- Driver Included
- Field proven by multiple customers
- Software deployed worldwide
- Zero defect policy

With NComm's proven source code and protocol stack, you have the quality and standard compliance interfaces that you need for less cost than you can do it yourself.

Product Overview

APS (Automatic Protection Switching) is one of the major features of SONET (Synchronous Optical NETwork) as well as SDH (Synchronous Digital Hierarchy) networks. SONET/SDH APS is well defined by standards and provides a mechanism to keep traffic operational during network failures.
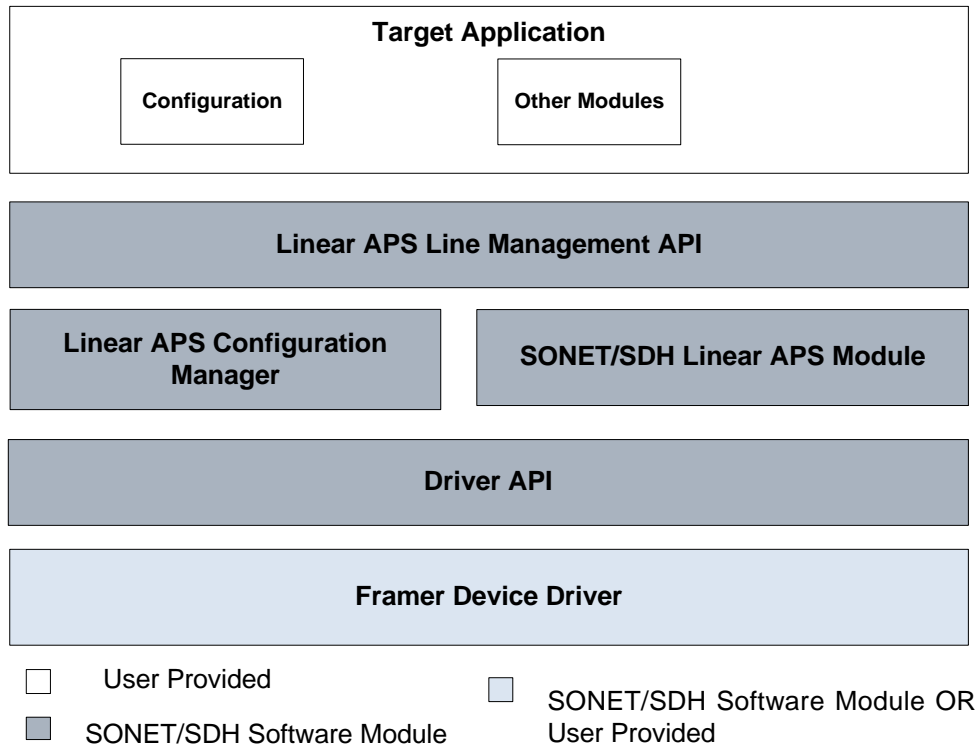
NComm's APS modules in the NComm TMS® family of telecom source code provides the necessary functionality to monitor each line as well as the control/switching over multiple lines.

The Linear APS models can be implemented in both the 1+1, 1:1 and 1:N architectures. Uni-directional/bi-directional and revertive/non-revertive modes of operation are supported. In addition, NComm's SONET/SDH Linear APS TMS has routines that can assist in developing equipment protection for your system.

NComm's SONET/SDH Linear APS TMS is supplied as ANSI C source code. User manuals, implementation training and technical support are also included with each license. A sample demo application provides functionality very quickly. This sample application also functions as a guide for integration of the SONET/SDH TMS API into the upper management or control systems of your choice.

Applications

- Add/Drop Multiplexers
- Central Office Switches
- Routers
- SONET/SDH Multiplexers
- Remote Access devices

Linear APS TMS Architecture

As in the entire TMS family of OAM software, Linear APS TMS is architected to be hardware and operating system independent. Well-defined APIs are employed for faster first time integration and ease of reuse.

OAM TMS Software Architecture

The Linear APS Software API is comprised of a set of ANSI C functions and macros that encapsulate all functionality and data of the Linear APS Software. The API provides a clean interface to the Linear APS Software simplifying the integration of the Linear APS Software to the target application. The target application is implemented on top of the Linear APS Line Management API layer, using the API to access all functionality provided by the Linear APS Software.

The SONET/SDH Configuration Manager Module (CMM) provides the interface points for administering and configuring any of the STS-1/OC-n lines being controlled by the Linear APS TMS.

The NComm SONET/SDH TMS software architecture for Automatic Protection Switching (APS) supports either a monolithic, or a distributed APS arrangement. In a monolithic environment, all processes, tasks, and controls execute on the same CPU. However, protection-switching environments may require distributed environments that have more than one process, task, or controller, and may execute among multiple CPUs. NComm provides a simple and clean interface to aid in the implementation and support of a distributed environment.

The Device Driver and its associated API provides the interface between the Linear APS Software and the driver device. The Driver API is comprised of a set of ANSI C functions and macros that handle the interaction with the device.